

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave. St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002356**Date Inspected:** 29-Apr-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Japan Steel Works, Ltd.**Location:** Muroran, Japan**CWI Name:** Chung Kuan**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Jacking and Deviation Saddles**Summary of Items Observed:**

On this date OSM Quality Assurance Representative Daniel L. Reyes observed the Welder Performance Qualification Test (WPQT) and the inspections relative to this project. The following was observed:

Testing Shop

At the start of the shift this QA inspector observed the Welders Qualification Record Tests (WQRT) and the inspection performed by third party inspection agency Intertek Testing Services (ITS). The Japan Steel Works, Ltd. (JSW) welding personnel Yoshihito-Kano ID 08-5158, Satoru-Watanabe ID 08-5159 and Yuji-Sugawara ID 08-5160 performed the testing utilizing the gas-shielded Flux Cored Arc Welding (FCAW-G) and the Shielded Metal Arc Welding (SMAW) process. In regards to the FCAW process the tests were performed with plate was placed in the horizontal plane with the weld metal deposited from above (1G position) and the SMAW process the tests were performed with the plate placed in the vertical plane with the axis of the weld vertical (3G position-up). The Welding Procedure Specifications (WPS) utilized were identified as SJ-2983-WP-1 for the SMAW process and SJ-2983-WP-2 for the FCAW-G process.

The material used for the welder performance qualification test specimens was reported by JSW Welding Engineer Mr. Takaaki Maruya as ASTM A709M-Gr.345T (plate to plate) having a material thickness measured at 25 mm. The weld joint design utilized appeared to be in compliance with the AWS D1.5-2002 Joint Designation identified as B-U2a (SMAW), B-U2a-GF (FCAW), Section 5 paragraph 5.23.1.2 and Figure 5.17 with a 10mm x 25mm backing bar. The filler metal and the shield gas utilized for FCAW process appeared to be TM-95K2 with an electrode size of 1.6 mm and the gas shielding utilized was 100% CO2 medium. The filler metal utilized for the SMAW process appeared to be Hoballoy E9018-M with an electrode size of 4.0 mm. The filler metal utilized appeared to comply with the contract documents. The welding and welding parameters were monitored and

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recorded by CWI inspector Chung Kuan and JSW Welding Engineer Mr. Takaaki Maruya, and were also observed by this QA inspector. The QC inspector, Mr. Chung Kuan performed the visual inspection of the six (6) test plates and visually accepted five (5) of the six (6) test plates. The welder, Yuji-Sugawara failed the visual inspection of the SMAW test plate which was noted by Mr. Chung. Based on a random QA observation, the WQRT appeared to be in general compliance with the requirements of AWS D1.5 2002. (See Digital Photographs)



Summary of Conversations:

There were general conversations with Japan Steel Works, Ltd. (JSW) Bridge Group Steel Products Department personnel Kunio Nagaya regarding the locations of inspection personnel.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Lanz,Joe	QA Reviewer
